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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/643,363	08/19/2003	Mark Christofis	46107-0102	4832

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EXAMINER

ALEXANDER, MICHAEL P

ART UNIT	PAPER NUMBER
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1742

DATE MAILED: 10/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/643,363

Applicant(s)

CHRISTOFIS ET AL.

Examiner

Michael P. Alexander

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) 1-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 22-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>19 August 2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-21, drawn to a method of induction heat treatment, classified in class 148, subclass 567.
- II. Claims 22-29, drawn to an article, classified in class 464, subclass 111.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be made by a convection heat treatment process.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

During a telephone conversation with Richard Jones on September 2005 a provisional election was made without traverse to prosecute the invention of Group II, claims 22-29. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-21 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 22-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mizukoshi (US 5,098,342) in view of the admitted prior art (see paragraphs 0003-0004 of the instant specification).

Regarding claim 22, Mizukoshi teach (see Fig. 1) an article, comprising a hub, a plurality of angularly spaced trunnion shoulders extending from the hub, each having a trunnion shoulder surface, and a corresponding plurality of angularly space trunnions

extending from the plurality of trunnion shoulders, each trunnion having a trunnion axis and a trunnion surface.

Still regarding claim 22, Mizokoshi does not specify that the trunnion surfaces and the trunnion shoulder surfaces would comprise a hardened case and does not specify that the hardened case would be formed by an induction heat treatment.

With respect to the limitation that the trunnion surfaces and the trunnion shoulder surfaces would comprise a hardened case in claim 22, applicant admits as a prior art (0003-0004) a method of heat treatment to form a hardened case on the surface of the trunnions in order to provide the strength in the load bearing areas of the outer surface, and the necessary toughness and fatigue resistance in the core. It would have been obvious to one of ordinary skill in the art to modify the article of Mizokoshi by applying the heat treatment method of the admitted prior art to form a hardened case on the trunnion and trunnion shoulder surfaces in order to provide the strength in the load bearing areas of the outer surface, and the necessary toughness and fatigue resistance in the core as admitted.

With respect to the limitation that the hardened case would be formed by an induction heat treatment in claim 22, the Examiner asserts that this is a product-by-process limitation. The Examiner further asserts that the claimed article would be the same as or obvious from the article of Mizokoshi as heat treated by the method of the admitted prior art. See MPEP 2113. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of

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production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.”

Regarding claim 23, the Examiner asserts that the claimed process steps are product-by-process limitations. The Examiner further asserts that the claimed article would be the same as or obvious from the article of Mizokoshi as heat treated by the method of the admitted prior art. See MPEP 2113.

Regarding claim 24, applicant admits (0003) that the method of the prior art would result in a hardened case comprising a martensitic microstructure and a core comprising a microstructure that is a mixture of pearlite and ferrite.

Regarding claim 25, applicant admits (0003) that the method of the prior art would result in a hardened case having a hardness of about Rc 58-63 and a core having a hardness of about Rc 15-30.

Regarding claim 26, applicant admits (0003) that the method of the prior art would result in a tempered martensitic microstructure.

Regarding claim 27 that the limitation that the tempered martensitic microstructure would be formed by induction heat treatment, the Examiner asserts that this is a product-by-process limitation. The Examiner further asserts that the claimed article would be the same as or obvious from the article of Mizokoshi as heat treated by the method of the admitted prior art. See MPEP 2113.

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Regarding claim 28, applicant admits (0003) that the method of the prior art would result in a tempered martensitic microstructure with a hardness of about Rc 58-63.

Regarding claim 29, applicant admits (0003) that the method of the prior art would result in a depth of the case of about 1-2 mm.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael P. Alexander whose telephone number is 571-272-8558. The examiner can normally be reached on M-F 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy V. King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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